WHAT IS CLAIMED IS:

1. An encoder having an input and an output, wherein the input receives a signal, wherein the encoder calculates an entropy of at least a portion of the signal and encodes the signal with the calculated entropy, and wherein the output carries the encoded signal.

2. The encoder of claim 1 wherein the signal is an audio signal.

3. The encoder of claim 1 wherein the encoder determines entropy according to the following equation:

$$E = -\sum_{i=0}^{255} p_i \log p_i$$

wherein the signal is sampled to produce a number N of samples, wherein the samples are placed in bins according to their values, and wherein p_i is determined as the number of samples in bin i divided by N.

4. The encoder of claim 1 wherein the entropy is comprised of bits, and wherein each bit is coded by amplitude modulating the signal at a pair of frequencies so as to preserve the entropy of the encoded portion of the signal.

5. The encoder of claim 1 wherein the signal is coded with the entropy so as to preserve the entropy of the encoded portion of the signal.

6. The encoder of claim 1 wherein the entropy is comprised of bits, and wherein each bit is coded so as to preserve the entropy of the encoded portion of the signal.

7. The encoder of claim 1 wherein the entropy is comprised of bits, and wherein each bit is coded by swapping a spectral amplitude of at least two frequencies in the signal.

8. The encoder of claim 1 wherein the signal is coded with the entropy using frequency hopping.

9. The encoder of claim 1 wherein the signal is coded with the entropy using spectral modulation.

10. The encoder of claim 1 wherein the signal is coded with the entropy using histograms.

11. A decoder having an input and an output, wherein the input receives a signal, wherein the decoder decodes the signal so as to read an entropy code from the signal, and wherein the output carries a signal based upon the decoded entropy code.

12. The decoder of claim 11 wherein the signal is an audio signal.

13. The decoder of claim 11 wherein the entropy code represents an entropy having a value determined according to the following equation:

$$E = -\sum_{i=0}^{255} p_i \log p_i$$

wherein p_i is determined as a number of samples in a bin i divided by N, wherein N equals a total number of samples in all bins, where the samples are placed in the bins according to their values, and wherein the samples are generated from the signal.

14. The decoder of claim 11 wherein the entropy code is decoded by amplitude demodulating pairs of frequencies.

15. The decoder of claim 11 wherein the entropy code is decoded by determining swapping events, and wherein the swapping events correspond to swapping of a spectral amplitude of at least two frequencies in the signal.

16. The decoder of claim 11 wherein the entropy code is decoded using frequency hopping.

17. The decoder of claim 11 wherein the entropy code is decoded using spectral demodulation.

18. The decoder of claim 11 wherein the decoder determines an entropy of the signal and compares the determined entropy to an entropy represented by the decoded entropy code.

19. The decoder of claim 18 wherein the decoder detects compression/decompression based upon results from the comparison.

20. The decoder of claim 18 wherein the decoder prevents use of a device based upon results from the comparison.

21. The decoder of claim 18 wherein the decoder determines entropy according to the following equation:

$$E = -\sum_{i=0}^{255} p_i \log p_i$$

wherein the signal is sampled to produce a number N of samples, wherein the samples are placed in bins according to their values, and wherein p_i is determined as the number of samples in bin i divided by N.

22. A method of encoding a signal comprising the following steps:

a) calculating an entropy of at least a portion of the signal;

b) encoding the signal with the calculated entropy.

23. The method of claim 22 wherein the signal is an audio signal.

24. The method of claim 22 wherein step a) comprises the following steps:

a1) producing N samples of the signal;

a2) placing the samples in bins according to their values; and,

a3) calculating the entropy in accordance with the following equation:

$$E = -\sum_{i=0}^{255} p_i \log p_i$$

wherein p_i is determined as the number of samples in bin i divided by N.

25. The method of claim 22 wherein the calculated entropy is comprised of bits, and wherein step b) comprises the step of coding each of the bits by amplitude modulating the signal at a pair of frequencies so as to preserve the entropy of the encoded portion of the signal.

26. The method of claim 22 wherein step b) comprises the step of coding the signal with the calculated entropy so as to preserve the entropy of the encoded portion of the signal.

27. The method of claim 22 wherein the calculated entropy is comprised of bits, and wherein step b) comprises the step of coding each of the bits so as to preserve the entropy of the encoded portion of the signal.

28. The method of claim 22 wherein the calculated entropy is comprised of bits, and wherein step b) comprises the step of coding each of the bits by swapping a spectral amplitude of at least two frequencies in the signal.

29. The method of claim 22 wherein step b) comprises the step of coding the signal with the calculated entropy using frequency hopping.

30. The method of claim 22 wherein step b) comprises the step of coding the signal with the calculated entropy using spectral modulation.

31. The method of claim 22 wherein step b) comprises the step of coding the signal with the calculated entropy using histograms.

32. A method of decoding a signal comprising the following steps:

a) decoding the signal so as to read a calculated entropy code from the signal; and,

b) providing an output based upon the decoded calculated entropy.

33. The method of claim 32 wherein the signal is an audio signal.

34. The method of claim 32 wherein the calculated entropy has a value determined according to the following equation:

$$E = -\sum_{i=0}^{255} p_i \log p_i$$

wherein p_i is determined as a number of samples in a bin i divided by N, wherein N equals a total number of samples in all bins, wherein the samples are placed in the bins according to their values, and wherein the samples are generated from the signal prior to decoding.

35. The method of claim 32 wherein step a) comprises the step of decoding the calculated entropy code by amplitude demodulating pairs of frequencies.

36. The method of claim 32 wherein step a) comprises the step of decoding the calculated entropy code by determining swapping events, and wherein the swapping events correspond to swapping of a spectral amplitude of at least two frequencies in the signal.

37. The method of claim 32 wherein step a) comprises the step of decoding the calculated entropy code by using frequency hopping.

38. The method of claim 32 wherein step a) comprises the step of decoding the calculated entropy code by using spectral demodulation.

39. The method of claim 32 comprising the further steps of:

c) determining an entropy of the signal; and,

d) comparing the entropy determined in step c) to the calculated entropy decoded in step a);

and wherein the output of step b) is based upon the comparison performed in step d).

40. The method of claim 39 wherein the output prevents playing of the signal based upon the comparison.

41. The method of claim 39 wherein step c) comprises the following steps:

c1) sampling the signal so as to produce a number N of samples;

c2) placing the samples in bins according to their values; and,

c3) determining the entropy according to the following equation:

$$E = -\sum_{i=0}^{255} p_i \log p_i$$

wherein p_i is determined as the number of samples in bin i divided by N.

42. An electrical signal containing an entropy code related to an entropy of the electrical signal.

43. The electrical signal of claim 42 wherein the electrical signal is an audio signal.

44. The electrical signal of claim 42 wherein the entropy represented by the entropy code is determined according to the following equation:

$$E = -\sum_{i=0}^{255} p_i \log p_i$$

wherein the electrical signal is sampled to produce a number N of samples, wherein the samples are placed in bins according to their values, and wherein p_i is determined as the number of samples in bin i divided by N.

45. The electrical signal of claim 42 wherein the entropy code is comprised of bits, and wherein each of the bits corresponds to an amplitude modulation of a pair of frequencies of the electrical signal.

46. The electrical signal of claim 42 wherein the electrical signal has the substantially same entropy with or without the entropy code.

47. The electrical signal of claim 42 wherein the entropy code is comprised of bits, and wherein the electrical signal has the same entropy with or without the entropy code.

48. The electrical signal of claim 42 wherein the entropy code is comprised of bits, and wherein each of the bits corresponds to a spectral amplitude swapping of at least two frequencies in the electrical signal.

49. The electrical signal of claim 42 wherein the entropy code is derived from frequency hopping.

50. The electrical signal of claim 42 wherein the entropy code is derived from spectral modulation.

51. The electrical signal of claim 42 wherein the entropy code is derived from histograms.

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